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| 10/534,264 | 11/14/2005 | Douglas S. McBain | OMNZ 2 00018 | 1009 |

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| EXAMINER | |
|---|---|
| LIU, XUE H | |

| ART UNIT | PAPER NUMBER |
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| 1791 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/534,264 | MCBAIN ET AL. | |
| | Examiner | Art Unit | |
| | XUE LIU | 1791 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *29 April 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *1-18* is/are pending in the application.

4a) Of the above claim(s) *1-6* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *7-18* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

## DETAILED ACTION

### *Response to Amendment*

1. Amendment to the claims filed on 4/29/09 is acknowledged. Currently, claims 7-18 are pending. Claims 1-6 are withdrawn. Claim 7 is currently amended.

### *Terminal Disclaimer*

2. The terminal disclaimer filed on 4/29/09 disclaiming the terminal portion of any patent granted on this application which would extend beyond the expiration date of any patent granted on Application Number 10/534,219 has been reviewed and is accepted. The terminal disclaimer has been recorded.

### *Drawings*

3. Objection to the drawings in the previous office action is withdrawn in view of amendment to the specification.

### *Double Patenting*

4. Rejections of claims 7-14 and 17-18 on the grounds of non-statutory obviousness type double patenting as being unpatentable over their respective conflicting claims in co-pending Application No. 10/534,219 are withdrawn in view of filing of the terminal disclaimer filed on 4/29/09.

### *Claim Rejections - 35 USC § 103*

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 7-12 and 14-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant Admitted prior art in view of Okamoto (English abstract and machine translation of JP11-147236).

Regarding claim 7, Applicant Admitted prior art (AAPA) teaches a method for in-mold coating thermoplastic parts, the method comprising the steps of manufacturing an in-mold coated thermoplastic part by molding a thermoplastic in a closed mold to form a substrate and subsequently contacting an in-mold coating with said substrate by injecting an in-mold coating into said closed mold (see paragraphs 7-10 in applicant's specification). AAPA does not teach a method for ensuring the quality of in-mold coated thermoplastic parts by: conducting at least one in-mold trial run that includes coating a thermoplastic substrate with an in-mold coating using a particular mold and polymeric material; determining optimal parameters that result in defined quality control standards, including one or more of lack of adhesion, lack of scratch resistance, surface imperfections, and lack of adequate coating coverage; recording said optimal parameters for said particular mold and polymeric materials using a data collection means; inspecting the coated thermoplastic part; determining whether the molding of the thermoplastic should be optimized for failure to meet defined quality control standards; optimizing the process conditions of the molding of the thermoplastic by adjusting one or more of injection volume, injection temperature, injection pressure, and molding pressure, determining whether the coating of the substrate should be optimized for failure to meet defined quality control standards; and optimizing the process conditions of the coating of the substrate by adjusting one or more of cure time, injection time, injection pressure, injection volume, injection temperature, or mold temperature at injection for said in-mold

coating. However, Okamoto teaches a method for setting molding condition for skin material insert molding, the method comprising the steps of: a) conducting at least one in-mold trial run that includes injection molding a thermoplastic substrate which is integrally bonded to a skin material using a particular mold and polymeric material; b) determining optimal parameters that result in defined quality control standards, including surface imperfections; recording said optimal parameters for said particular mold and polymeric materials using data collection means; manufacturing an in-mold coated thermoplastic part by molding a thermoplastic Q using a first set of process conditions in a closed mold 3, 4 to form a substrate integrally bonded to a skin material S which is placed inside the mold prior to molding; b) inspecting the coated thermoplastic part; c) determining whether the molding of the thermoplastic should be optimized for failure to meet defined quality control standards; d) optimizing the process conditions of the molding of the thermoplastic by adjusting the injection volume (amount of injection fill), injection pressure, or injection temperature (core material resin temperature) (see English abstract, fig. 1 and paragraphs 6, 8, 12-13, 16, 27-29, 33-34 in the machine translation). It would have been obvious to one of ordinary skill in the art to provide the teaching of Okamoto in the in-mold coating process of AAPA since Okamoto teaches that an optimum molding condition prevents the damage of the surface skin layer (see English abstract, paragraph 13 of machine translated specification). Furthermore, it would have been obvious to one of ordinary skill in the art to extend the teaching of Okamoto to optimize the coating of the substrate in the molding of the coating by adjusting various process parameters in the in-mold coating process of AAPA to further improve the appearance of the molded product.

Regarding claim 8, Okamoto teaches determining whether said thermoplastic substrate exhibits inadequate filling, or short-shot of the mold (paragraph 34 in machine translation of the specification).

Regarding claim 9, it is inherent that the in-mold coating process as taught by AAPA is performed under a set of process conditions including: one or more injection pressures for said thermoplastic, one or more injection thermoplastic temperature for said thermoplastic, one or more injection volumes for said thermoplastic, one or more injection times for said thermoset, one or more injection pressures for said thermoset, one or more injection pressures for said thermoset, one or more injection volumes for said thermoset, and one or more cure times for said thermoset.

Regarding claim 10, Okamoto teaches determining whether a surface appearance of the coating is acceptable for a defined end use (paragraphs 5 of machine translated specification).

Regarding claim 11, AAPA teaches cooling the injection molded article in the mold to the point that it has hardened sufficiently to accept the coating (paragraph 7 in applicant's specification). Therefore, it would have been obvious to one of ordinary skill in the art to inject the coating into the mold at a point after the thermoplastic has cooled to a temperature below its melt temperature.

Regarding claim 12, Okamoto teaches monitoring of a temperature in the mold 3, 4 (paragraphs 25 and 31 in the machine translation of the specification).

Regarding claim 14, Okamoto teaches that the optimum molding condition setting is performed repeated until an in-mold coated thermoplastic part is produced that meets

defined quality standards (paragraphs 29 and 35 in the machine translation of the specification).

Regarding claim 15, it would have been obvious to one of ordinary skill in the art to adjust the curing time of the coating in the in-mold coating process of AAPA and Okamoto since the curing time determines if a molded part is over cured or under cured.

Regarding claim 16, it would have been obvious to one of ordinary skill in the art to adjust the injection pressure of the in-mold coating since the injection pressure determines whether short shots or burrs occur in a molded part as taught by Okamoto (paragraph 34 in the machine translation of the specification).

Regarding claim 17, Okamoto teaches that values for the process conditions for the molding steps are controlled and recorded by a control apparatus 60 operatively associated with the mold 3, 4 (fig, 1, paragraphs 12-13, 23-24, 27, 33 in machine translation of specification). It would have been obvious to one of ordinary skill in the art to extend this teaching to the molding of the coating in the in-mold coating process of AAPA.

Regarding claim 18, Okamoto teaches that the optimized process conditions are stored in a control apparatus 64 associated with the mold 3, 4 and may be recalled for use in future molding processes (fig, 1, English abstract, paragraphs 1, 8, 13, 16, and 27 in machine translation of the specification).

2. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over AAPA in view of Okamoto as applied to claim 11 above, and further in view of John Myers (NPL document XP 000518931).

Regarding claim 13, AAPA does not teach monitoring of an internal pressure in the mold. However, John Myers teaches that sensing pressure in the tool cavity is one of the best ways to monitor and regulate the intricacies of the injection molding process. Therefore, it would have been obvious to one of ordinary skill in the art to provide the teaching of John Myers in the in-mold coating process of AAPA since John Myers teaches that the data generated from in-mold pressure sensing facilitates precise optimization of process parameters.

***Response to Arguments***

3. Applicant's arguments filed 4/29/08 have been fully considered but they are not persuasive. Applicant argues that Okamoto does not teach to determine and record optimal parameters that result in at least proper adhesion, scratch resistance, surface quality, and coverage since such quality control requirements are determined by a physical, instead of a simple visual inspection as described by Okamoto. However, independent claim 7 in its currently amended form does not specifically recite the way the inspection must be done. The claim does not require that the inspection CANNOT be a visual inspection and that the inspection must be over the physical prosperities of the coated part since the claim only recites "inspecting the coated thermoplastic part". Applicant further argues that it would not have been obvious to one of ordinary skill in the art to optimize the coating of the substrate by adjusting the appropriate processing parameters in view of Okamoto's teaching to adjust variables specific to optimizing the appearance of a molded product since the processing variables for optimizing a molded product is different from process conditions to improve the appearance of a mold coating. However, the present claim recites adjusting ONE OR MORE of processing conditions

for both the molding of the substrate and the coating. Therefore, some of the variables for optimizing the molded substrate as disclosed by Okamoto still apply to the molding of the coating regardless of the difference in quality control standard, such as the injection pressure and injection temperature. Furthermore, one of ordinary skill in the art would have recognized the need to use a different set of processing conditions for molding the coating, and to selectively adjust the appropriate processing conditions in order to meet the quality control standards tailored to the coating process. While the quality control standard for the coating and the substrate may be different, one of ordinary skill in the art would have recognized the particular result-effective variables for the coating process and to optimize these variables accordingly.

***Conclusion***

4. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to XUE LIU whose telephone number is (571)270-5522. The examiner can normally be reached on Monday to Friday 9:30 - 6:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Phillip Tucker can be reached on (571)272-1095. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/X. L./
Examiner, Art Unit 1791

/Philip C Tucker/
Supervisory Patent Examiner, Art Unit 1791